

I. AMENDMENTS

Amendments to the Specification

Please amend the Specification as follows:

Please amend the paragraph on page 23, line 25 over to page 24, line 9 as follows:

On the other hand, when the numbers of the optical signals in the Raman gain bands G1 and G2 are not balanced (e.g., when ten optical signals are transmitted in the Raman gain band G1, and four optical signals are transmitted in the Raman gain band G2, as illustrated on the right side of Fig. 6), the input power in the Raman gain band G2 decreases due to the decrease in the number of the optical signals. Therefore, the gain of the optical signals in the Raman gain band G2 increases as explained with reference to Fig. 4, and the output power in the Raman gain band G2 increases. Thus, the gains in the Raman gain bands ~~g1~~G1 and G2 become different.

Please amend the paragraph on page 24, lines 17-24 as follows:

In order to solve this problem, according to the present invention, the Raman gains are flexibly varied according to variations in the power of optical signals (i.e., variations in the number of optical signals) in each Raman gain band so that the deterioration in the transmission characteristics ~~are~~is suppressed, and the reliability and quality of the optical transmission using optical repeaters are improved.

Please amend the paragraph on page 25, line 24 over to page 26, line 9, as follows:

The electric signal which has passed through the filter F1 is smoothed by the smoothing unit 22a-1 so as to generate a DC voltage d1 as a characteristic signal. The gain control unit 23-1 compares the DC voltage d1 with a reference voltage (reference signal), and outputs a driving current as the aforementioned control signal cnt1 based on the result of the comparison, where the excitation light source LD1 is driven with the driving current cnt1. The output power of the ~~excitation driving current~~light source LD1 can be controlled according to the driving current cnt1, and therefore the gain in the Raman gain band G1 can be varied according to the control signal cnt1.

Please amend the paragraph on page 43, lines 14-17 as follows:

Here, in the optical transmission system 1, the gain in each of the Roman gain bands is variably controlled to the reference signal which is determined in the optical repeater.